



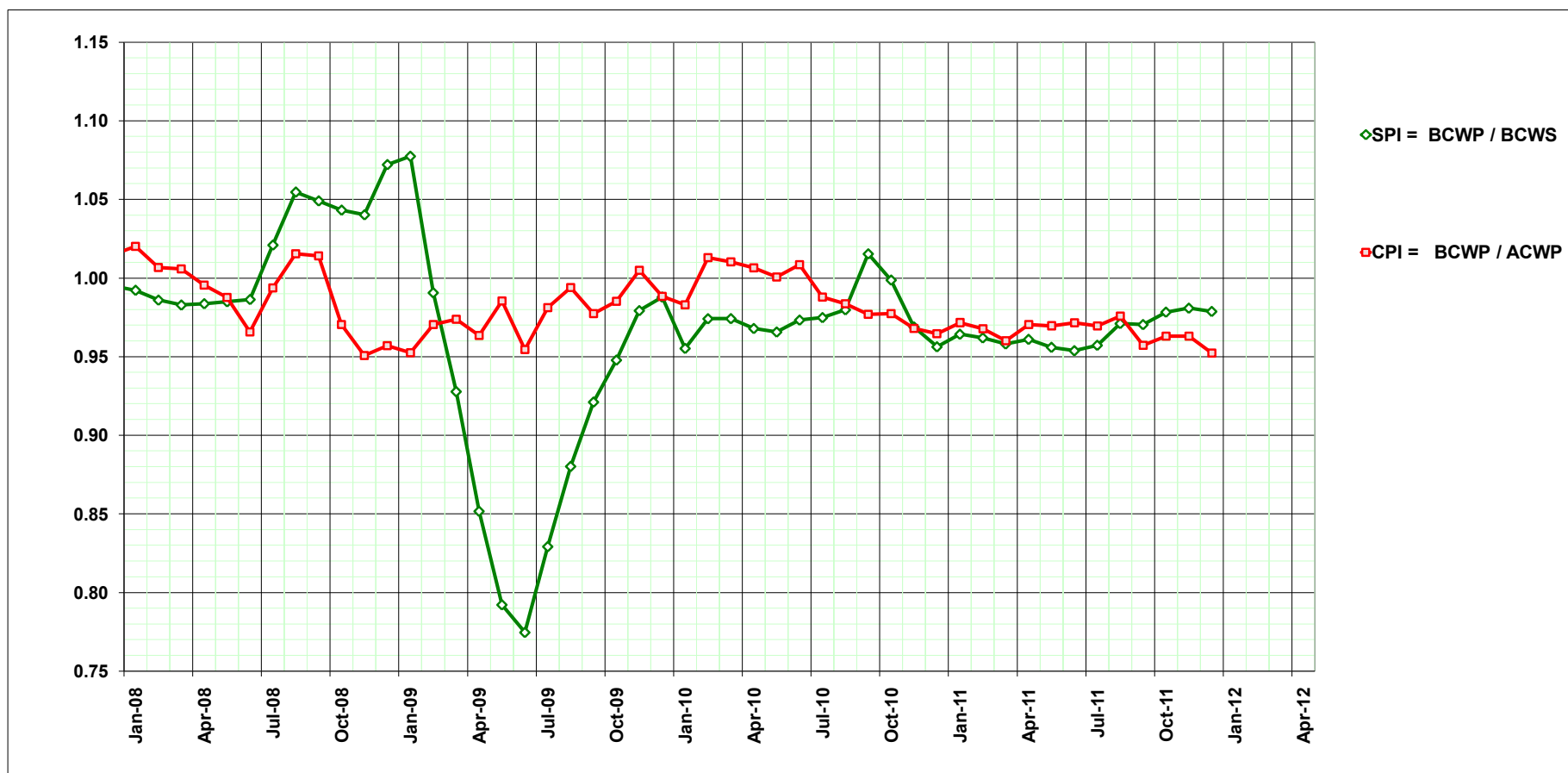
Project Status

Rick Tesarek
Deputy Project Manager



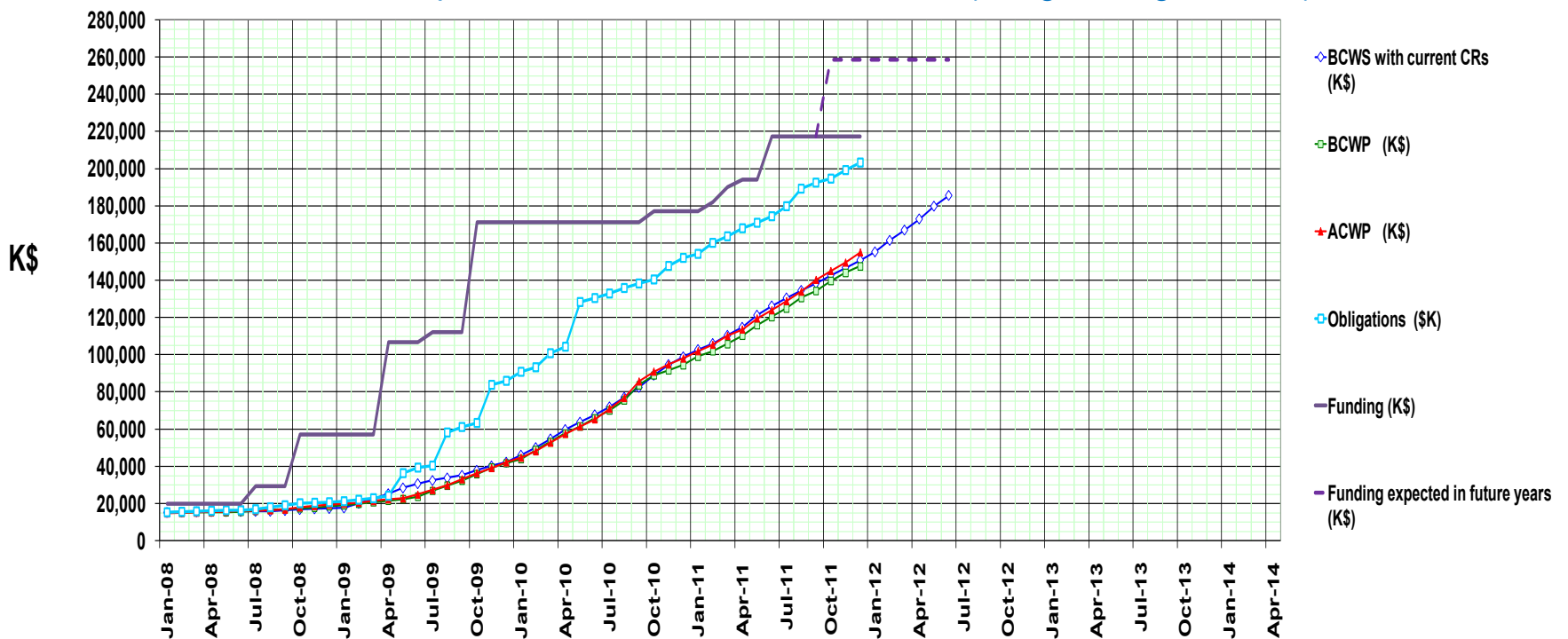
EVMS Reporting Overview

- Data now available through December 2011
 - SPI = **0.979**, compare to 0.981 in Nov, 0.978 in Oct, 0.970 in Sep
 - CPI = **0.952**, compare to 0.963 in Nov, 0.963 in Oct, 0.957 in Sep
- We are still “Green” (details coming on slides 3 & 4)



EVMS Reporting Overview

- Basic data in BCWS, BCWP, ACWP, **Funding & Obligations** through Dec 2011
 - BCWS = Budgeted cost of work Scheduled
 - BCWP = Budgeted cost of work Performed
 - ACWP = Actual cost of work Performed
- Project is 59.8 % complete ($BCWP/BAC = 147.6 \text{ M\$} / 247.1 \text{ M\$}$)
 - BAC = Budget at Completion (using EAC, get 58.0%)
- Project is 82.3 % obligated ($Obligations/BAC = 203.3 / 247.1$)
 - EAC = Estimate at Completion (using EAC, get 79.8%)





COST PERFORMANCE REPORT FORMAT 1 - WORK BREAKDOWN STRUCTURE

CPR1 Dec 2011

CONTRACTOR						CONTRACT					PROGRAM					REPORT PERIOD		
NAME						NAME					NAME					FROM 01-Dec-2011		
Fermi National Accelerator Laboratory											NOvA Project					TO 31-Dec-2011		
PERFORMANCE DATA																		
CTC-FndSrc		CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION						
WBS[2]				ACTUAL					ACTUAL									
Results...		BUDGETED COST		COST	VARIANCE		BUDGETED COST		COST	VARIANCE		LATEST						
		WORK	WORK	WORK			WORK	WORK	WORK			REVISED						
ITEM		SCHEDULED	PERFORMED	PERFORMED	SCHEDULE	COST	SCHEDULED	PERFORMED	PERFORMED	SCHEDULE	COST	BUDGETED	ESTIMATE	VARIANCE				
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)				
DA DOE-ACEL MIE																		
2.0 ANU Construction																		
Fully burdened AY\$		1,017	370	1,261	(648)	(892)	20,520	17,723	21,895	(2,797)	(4,172)	32,751	36,991	(4,240)				
CTC-FndSrcTotals:		1,017	370	1,261	(648)	(892)	20,520	17,723	21,895	(2,797)	(4,172)	32,751	36,991	(4,240)				
DC DOE-CA																		
2.1 Site and Building																		
Fully burdened AY\$		0	0	0	0	0	35,060	35,060	34,872	0	188	35,060	34,872	188				
CTC-FndSrcTotals:		0	0	0	0	0	35,060	35,060	34,872	0	188	35,060	34,872	188				
DD DOE-ACEL R&D																		
1.0 ANU R&D																		
Fully burdened AY\$		0	0	7	0	(7)	7,025	7,022	6,586	(2)	436	7,025	6,589	436				
CTC-FndSrcTotals:		0	0	7	0	(7)	7,025	7,022	6,586	(2)	436	7,025	6,589	436				
DE DOE-DET MIE																		
2.1 Site and Building																		
Fully burdened AY\$		213	62	70	(151)	(8)	6,872	6,756	5,126	(116)	1,630	6,953	5,325	1,629				
2.10 Project Management - Nova Project - Construction																		
Fully burdened AY\$		178	178	199	0	(21)	7,017	7,017	5,839	0	1,178	11,652	10,474	1,178				
2.2 Liquid Scintillator																		
Fully burdened AY\$		116	529	724	413	(195)	6,447	7,444	7,876	997	(432)	22,048	22,518	(470)				
2.3 WLS Fiber																		
Fully burdened AY\$		390	27	423	(363)	(397)	8,169	8,526	8,900	357	(374)	12,403	12,761	(358)				
2.4 PVC Extrusions																		
Fully burdened AY\$		574	997	953	423	44	10,772	12,093	11,850	1,321	243	30,695	30,249	446				
2.5 PVC Modules																		
Fully burdened AY\$		220	224	522	4	(298)	9,123	8,613	7,116	(510)	1,498	19,453	17,949	1,504				
2.6 Electronics																		
Fully burdened AY\$		311	124	371	(187)	(247)	5,231	4,545	3,821	(686)	725	12,152	11,501	650				
2.7 DAQ																		
Fully burdened AY\$		384	341	163	(44)	178	2,223	1,978	2,388	(245)	(410)	3,904	4,320	(416)				
2.8 Near Detector Assembly																		
Fully burdened AY\$		7	12	24	4	(12)	992	884	2,247	(108)	(1,362)	6,000	7,375	(1,375)				
2.9 Far Detector Assembly																		
Fully burdened AY\$		611	745	775	134	(30)	7,115	5,776	7,778	(1,339)	(2,002)	21,620	23,888	(2,267)				
CTC-FndSrcTotals:		3,005	3,238	4,223	233	(985)	63,963	63,633	62,939	(330)	694	146,880	146,359	520				

Paul will have details: e.g. RF cavity problems, also labor higher than plan

Accrued one railcar in error (125 K\$), price is \$5 not \$4/gal (100 K\$)

Accrued Nov shipment of fiber in Dec

Another iteration on module manifolds + standing army

Late invoice = 112 K\$, ASICs & low voltage PS accrued too early 180 K\$

BOTTOM LINE: May recover some of this in Jan; Investigating schedule changes for future work

PMG Jan 31, 2012

R.J. Tesarek

CPR1 Dec 2011 continued

FORMAT 1 - WORK BREAKDOWN STRUCTURE

CONTRACTOR						CONTRACT			PROGRAM			REPORT PERIOD		
NAME						NAME			NAME			FROM 01-Dec-2011		
Fermi National Accelerator Laboratory									NOvA Project			TO 31-Dec-2011		
PERFORMANCE DATA														
CTC-FndSrc		CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
WBS[2]				ACTUAL					ACTUAL				LATEST	
Results...		BUDGETED COST		COST	VARIANCE		BUDGETED COST		COST	VARIANCE			REVISED	
ITEM		SCHEDULED	PERFORMED	PERFORMED	SCHEDULE	COST	SCHEDULED	PERFORMED	PERFORMED	SCHEDULE	COST	BUDGETED	ESTIMATE	VARIANCE
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
DO DOE-ACEL OPS														
1.0 ANU R&D														
Fully burdened AY\$		0	0	6	0	(6)	390	316	550	(75)	(235)	1,488	1,721	(233)
CTC-FndSrcTotals:		0	0	6	0	(6)	390	316	550	(75)	(235)	1,488	1,721	(233)
DR DOE-POST CD-1 DET R&D														
1.1 Site and Building R&D														
Fully burdened AY\$		0	0	0	0	0	3,630	3,630	3,168	0	462	3,630	3,168	462
1.2 Liquid Scintillator R&D														
Fully burdened AY\$		0	0	0	0	0	297	297	389	0	(92)	297	389	(92)
1.3 WLS Fiber R&D														
Fully burdened AY\$		0	0	0	0	0	341	341	375	0	(34)	341	375	(34)
1.4 PVC Extrusion R&D														
Fully burdened AY\$		0	0	2	0	(2)	1,369	1,369	2,084	0	(715)	1,369	2,084	(715)
1.5 PVC Module R&D														
Fully burdened AY\$		0	0	0	0	0	2,260	2,260	2,421	0	(160)	2,260	2,421	(160)
1.6 Electronics R&D														
Fully burdened AY\$		0	24	0	24	24	2,028	2,028	2,600	0	(572)	2,028	2,600	(572)
1.7 DAQ R&D														
Fully burdened AY\$		0	0	0	0	0	1,635	1,635	2,822	0	(1,186)	1,635	2,822	(1,186)
1.8 Detector Assembly R&D														
Fully burdened AY\$		0	0	0	0	0	3,123	3,123	4,929	0	(1,806)	3,123	4,929	(1,806)
1.9 Project Management R&D														
Fully burdened AY\$		0	0	0	0	0	383	383	559	0	(176)	383	559	(176)
CTC-FndSrcTotals:		0	24	2	24	22	15,067	15,067	19,347	0	(4,280)	15,067	19,347	(4,280)
DY DOE CD-0 TO CD-1 R&D														
1.9 Project Management R&D														
Fully burdened AY\$		0	0	0	0	0	8,801	8,801	8,801	0	0	8,801	8,801	0
CTC-FndSrcTotals:		0	0	0	0	0	8,801	8,801	8,801	0	0	8,801	8,801	0
Undist. Budget												0	0	0
Sub Total		4,022	3,631	5,499	(391)	(1,868)	150,825	147,621	154,990	(3,203)	(7,369)	247,071	254,680	(7,609)
Management Resrv.												30,929		
Total		4,022	3,631	5,499	(391)	(1,868)	150,825	147,621	154,990	(3,203)	(7,369)	278,000		



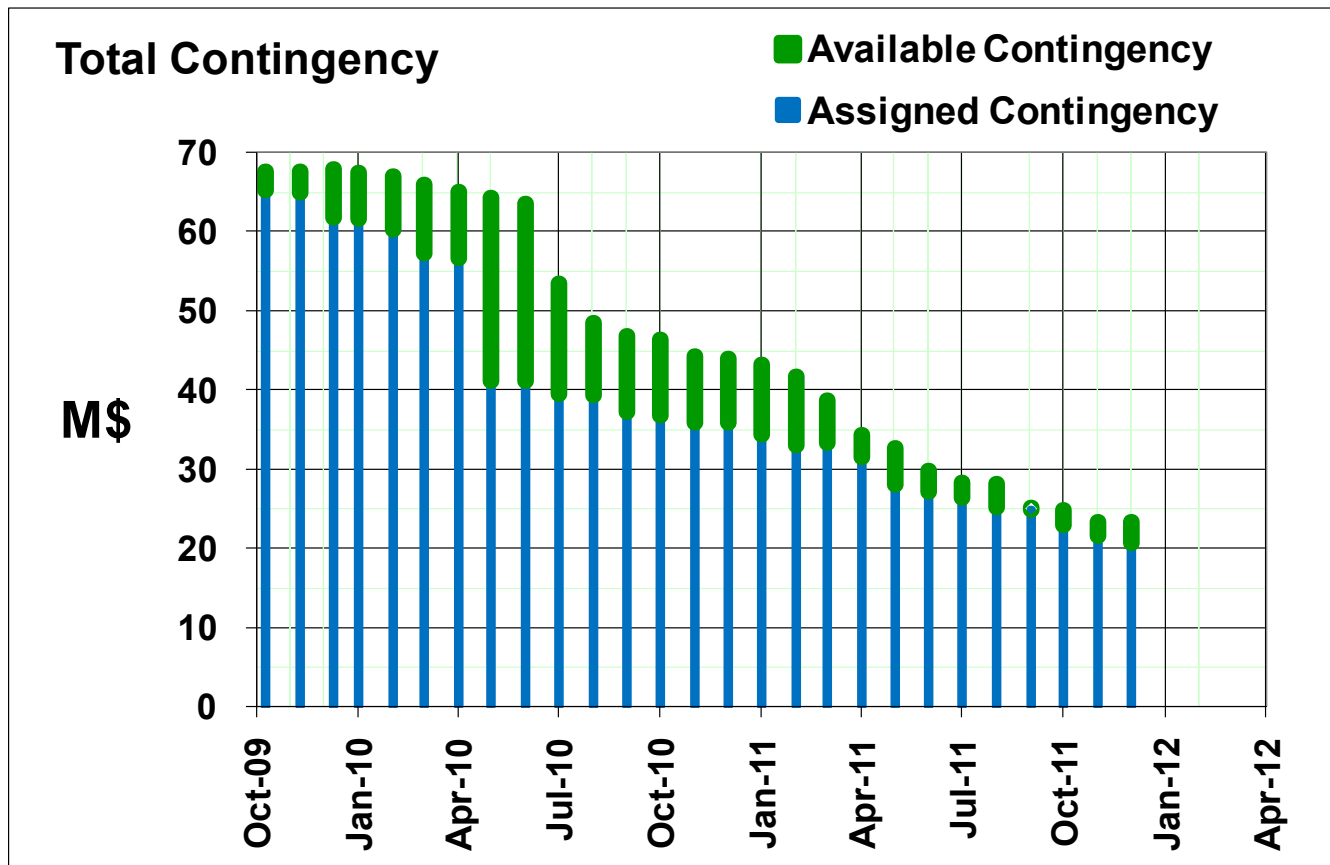
AY\$ by Level 2 with MIE/OPC split

	WBS	Items	NOVA Costs to Date (\$M)	NOVA's Cost Estimate AY \$M (for January 1, 2012 to project end)									
			as of	Estimated Cost (with indirects)			Mgmt Reserve Estimate			Contingency %			Total
			31-Dec-2011	M&S	Labor ¹	Total	M&S	Labor ¹	Total	M&S	Labor ¹	Total	Cost
TEC	2.0	Accelerator & NuMI Upgrades	\$ 21.9	\$ 4.4	\$ 10.7	\$ 15.1	\$ 1.5	\$ 3.1	\$ 4.6	34%	29%	31%	\$ 41.6
	2.1	Far Detector Site and Building	\$ 5.1	\$ 0.2	\$ 0.0	\$ 0.2	\$ 0.0	\$ 0.0	\$ 0.0	12%	20%	13%	\$ 5.4
	2.2	Liquid Scintillator	\$ 7.9	\$ 14.4	\$ 0.2	\$ 14.6	\$ 3.6	\$ 0.1	\$ 3.7	25%	40%	25%	\$ 26.2
	2.3	Wave-Length-Shifting Fiber	\$ 8.9	\$ 3.6	\$ 0.3	\$ 3.9	\$ 0.2	\$ 0.0	\$ 0.2	5%	11%	6%	\$ 13.0
	2.4	PVC Extrusions	\$ 11.8	\$ 17.6	\$ 0.8	\$ 18.4	\$ 1.0	\$ 0.2	\$ 1.2	6%	20%	6%	\$ 31.4
	2.5	PVC Modules	\$ 7.1	\$ 4.4	\$ 6.5	\$ 10.8	\$ 0.4	\$ 1.2	\$ 1.6	9%	18%	15%	\$ 19.5
	2.6	Electronics Production	\$ 3.8	\$ 6.6	\$ 1.1	\$ 7.7	\$ 0.5	\$ 0.3	\$ 0.8	8%	28%	11%	\$ 12.3
	2.7	Data Acquisition System	\$ 2.4	\$ 1.2	\$ 0.7	\$ 1.9	\$ 0.3	\$ 0.2	\$ 0.5	23%	33%	27%	\$ 4.8
	2.8	Near Detector Assembly	\$ 2.2	\$ 4.9	\$ 0.3	\$ 5.1	\$ 1.6	\$ 0.2	\$ 1.8	33%	56%	34%	\$ 9.1
	2.9	Far Detector Assembly	\$ 7.8	\$ 7.6	\$ 8.5	\$ 16.1	\$ 1.6	\$ 4.1	\$ 5.8	21%	49%	36%	\$ 29.7
	2.10	Project Management	\$ 5.8	\$ 0.2	\$ 4.5	\$ 4.6	\$ 0.0	\$ -	\$ 0.0	25%	0%	1%	\$ 10.5
		Subtotal Construction	\$ 84.8	\$ 65.0	\$ 33.5	\$ 98.5	\$ 10.8	\$ 9.4	\$ 20.2	17%	28%	21%	\$ 203.6
OPC		R&D - Accelerator	\$ 6.6	\$ -	\$ 0.0	\$ 0.0	\$ -	\$ 0.0	\$ 0.0	0%	20%	20%	\$ 6.6
		R&D - Detector	\$ 28.1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	0%	\$ 28.1
		Cooperative Agreement	\$ 34.9	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0%	0%	0%	\$ 34.9
		Operating	\$ 0.6	\$ 0.0	\$ 1.1	\$ 1.2	\$ 0.0	\$ 0.4	\$ 0.4	42%	32%	32%	\$ 2.1
		Total OPC:	\$ 70.2	\$ 0.0	\$ 1.1	\$ 1.2	\$ 0.0	\$ 0.4	\$ 0.4	42%	32%	32%	\$ 71.7
		Available Contingency							\$ 2.710				\$ 2.7
		TPC:	\$ 155.0	\$ 65.0	\$ 34.6	\$ 99.7	\$ 10.8	\$ 9.8	\$ 23.3	17%	28%	23%	\$ 278.000

Contingency Status, Dec 2011



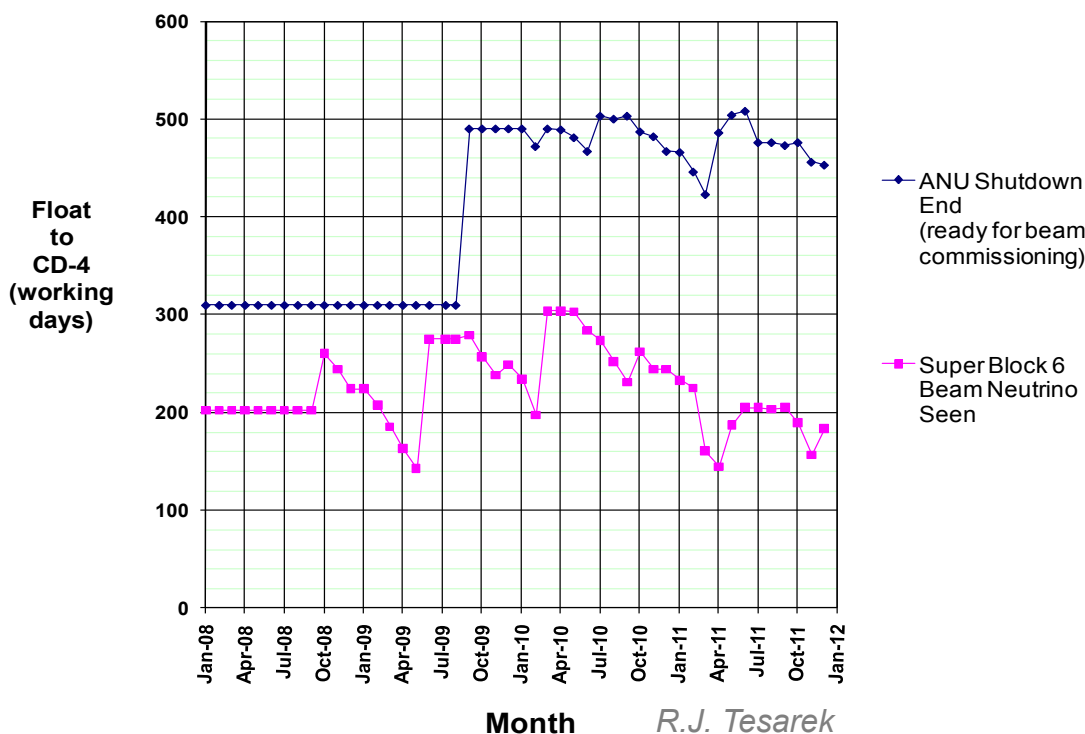
- **Total Contingency is 23.3 M\$ (Nov = 23.3, Oct = 24.9 M\$, Sep = 25.2 M\$)**
 - 23% Contingency on remaining work (Estimated Cost is 99.7 M\$)
 - 45% on remaining Obligations (Obligations are ~ 48 M\$ ahead of Costs)
- **Available Contingency = \$ 2.710 M\$ (Nov = 1.70, Oct = 2.01 M\$, Sep = 0.28 M\$)**
 - Assigned Contingency is assigned according to remaining risk































Milestones: What about CD-4 ?

- **ANU lost 20 days of float in Nov, 3 more in Dec** -- **Now at 456 days**
 - Replan of shutdown lost month during Nov status,
Kicker schedule drives this float but RF cavities are close behind
- **The Detector lost 33 days of float in Nov, got 27 back in Dec** -- **Now at 156 days**
 - Pivoter readiness drives the float to assembly start,
but Module Production at Minnesota is still only hours behind Pivoter
 - Float to CD-4 was pushed out in Nov by longer durations estimated for assembly of the 1st 2 blocks. Dec gained it back by finding errors in the schedule with still active Block #30 tasks (recall we are building 29 blocks = 14.25 kt).





Milestones held by DOE - OHEP

<div></div> <div>Nova_Project</div> <div>Milestone Gantt Chart</div> <div>Nova_Milestones_L1_L2 = [BOOL.T] and ESDATE >= {10/1/08}</div> <div>December 2011 Status</div> <div>TimeNow: 01Jan12</div>						<div>Baseline Date </div> <div>Completed Milestone </div> <div>Current Forecast Date </div> <div>Management Reporting Date </div>																											
Activity Desc.	Baseline Date	Forecast / Actual Date	Management Reporting Date	Reporting Milestone Float	Baseline Variance	FY09				FY10				FY11				FY12				FY13				FY14							
						Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1			
L.1 -- DOE - OHEP Associate Director Milestone						Time Now - 01Jan12																											
CD-3a	02Feb09	24Oct08	02Feb09	63d	63d																												
CD-3b	01Oct09	29Oct09	01Oct09	-21d	-21d																												
IPND ready to take data	11Oct10	30Nov10	12Jan11	27d	-35d																												
Beneficial occupancy (Substantial completion) - far detector building construction	30Jun11	13Apr11	22Jun11	48d	54d																												
Beneficial occupancy of near detector cavern	01Apr13	15Jan13	10Aug12	-106d	52d																												
NuMI neutrino event observed in Superblock 1	01Oct13	29Jan13	03Jun13	87d	171d																												
Near detector completed and ready to operate	02Jan14	07Oct13	03Sep13	-25d	56d																												
14 kt installation completed	16Jan14	04Feb14	16Jan14	-13d	-12d																												

No changes in November
December CR 439 moved

Near Cavern B.O. to April 2013 (original date of Feb 2012 was before contractor could be selected)

NuMI neutrino event to Oct 2013 (original date of Dec 2012 was during shutdown)

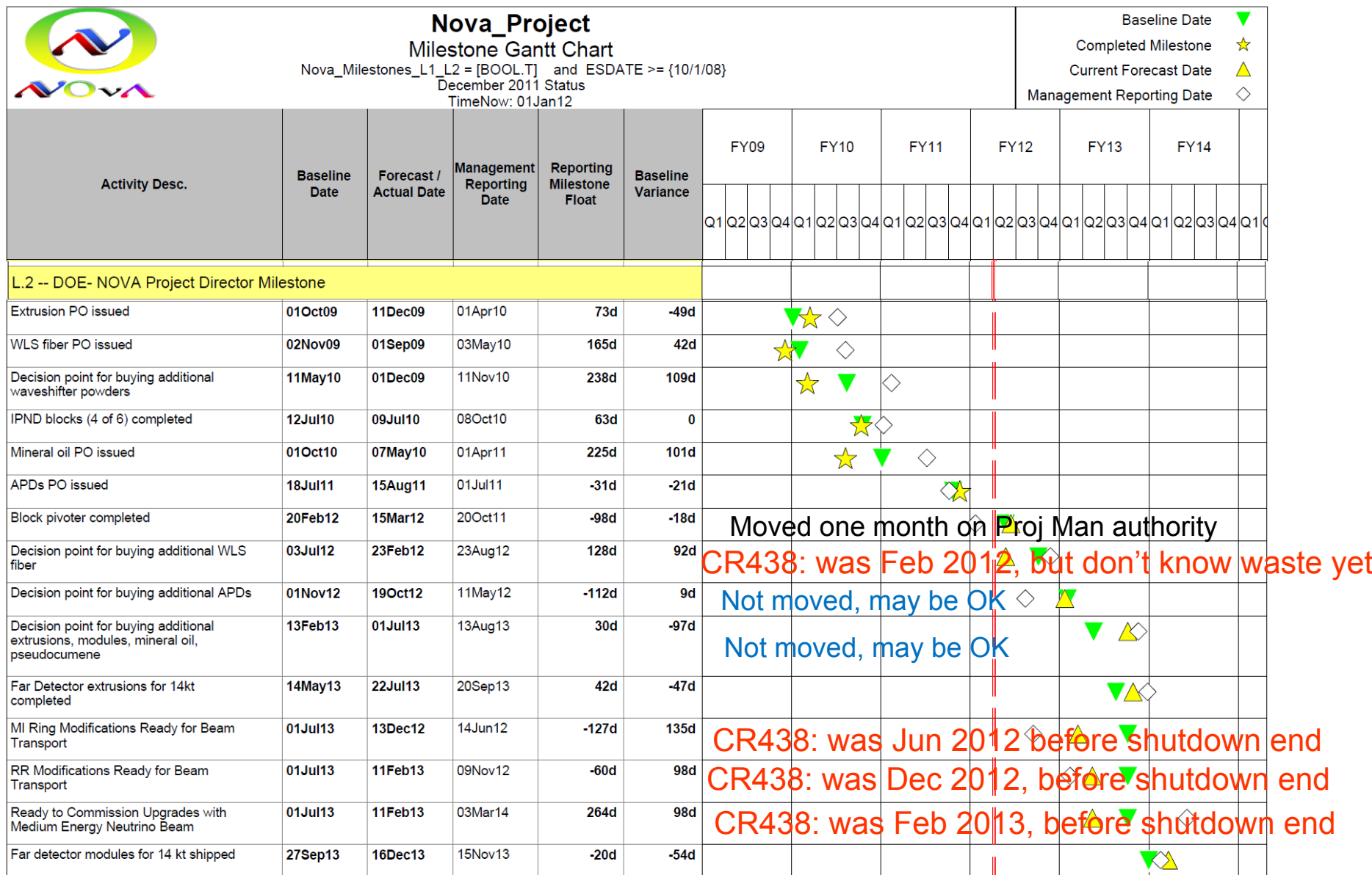
Near Detector complete to Jan 2014 (original date of March 2013 would be during cavern const.)

14 kt installation completed did not move

Procario signed this one.



DOE Milestones – Fed Project Director





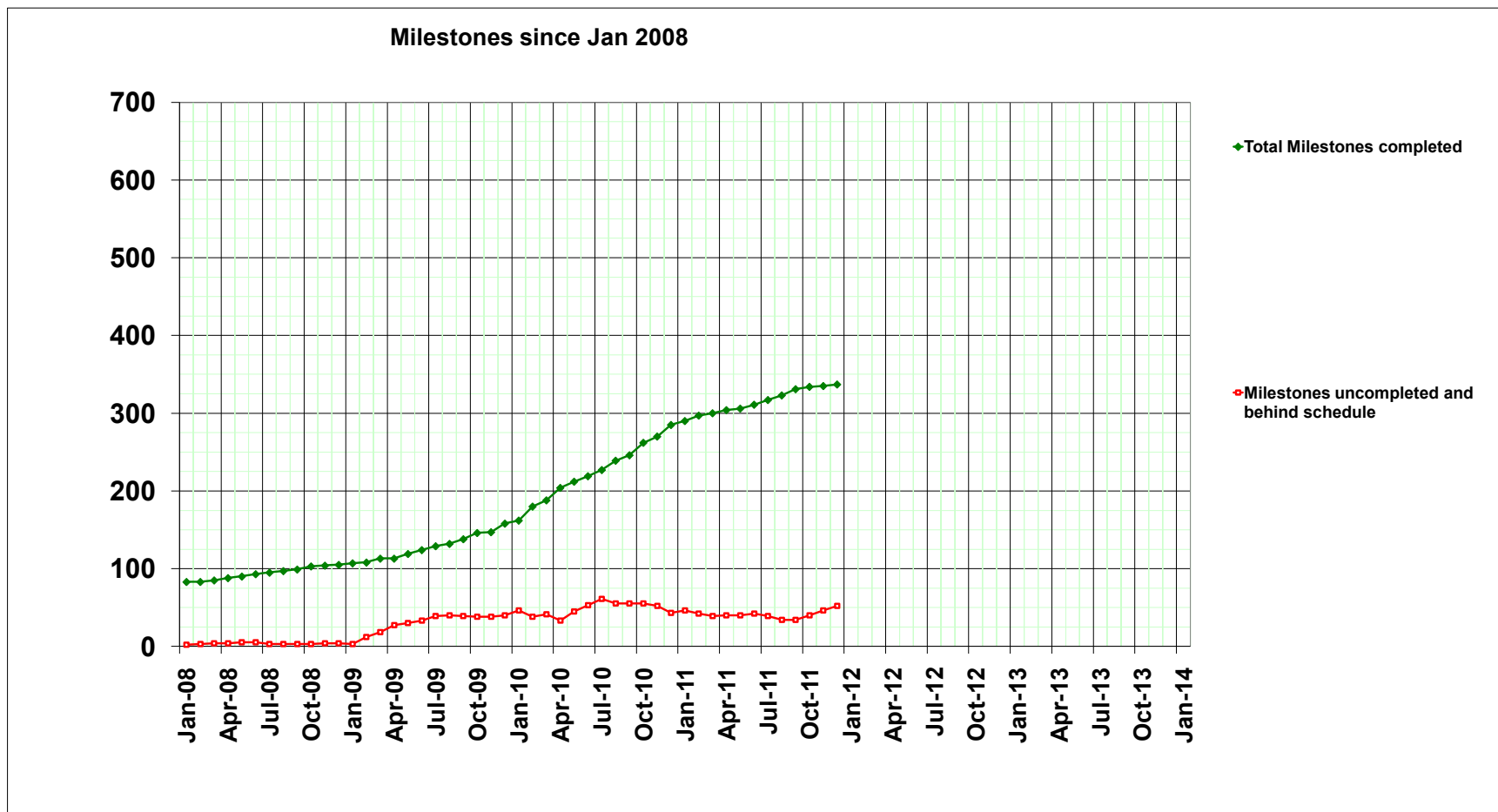
Milestones held by Directorate

Activity ID	Activity Desc.	Baseline Date	Forecast or Actual Date	Baseline Variance	FY09				FY10				FY11				FY12				FY13				FY14			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
L.3 -- Fermilab Associate Director Milestone					Time Now - 01-Jan12																							
2.10.9.5	CD-3a Funds Available	02Feb09	24Oct08	63d	★	▼																						
2.10.9.7	FY09 Funds Available	02Feb09	14Oct08	71d	★	▼																						
2.10.10.3	2009 Shutdown Begun	06Apr09	15Jun09	-50d		▼	★																					
2.10.9.24	Director's CD-3b Review	01May09	18Jun09	-34d		▼	★																					
2.0.1.2.8.1	Gap Clearing/RR Inj Kicker Magnet Design Complete	01Sep09	01Dec09	-63d			▼	★																				
2.10.9.6	CD-3b Funds Available	01Oct09	29Oct09	-21d			▼	★																				
2.10.9.8	FY10 Funds Available	02Nov09	01Oct09	21d			▼	★																				
2.3.2.1.6	WLS fiber production begins	09Feb10	12Jan10	18d				▼	★																			
1.5.7.3.9	IPND block 4 module production completed	04Jun10	17May10	12d					▼	★																		
2.10.9.9	FY11 Funds Available	01Nov10	03Jan11	-41d						▼	★																	
2.1.2.5.23	Final acceptance/project completion - far detector building construction	10Oct11	10Oct11	-1d									▼	★														
2.10.9.10	FY12 Funds Available	01Nov11	03Jan12	-39d									▼	★														
2.0.3.3.4.1	NuMI Shielding Blocks & Carriage Complete	28Nov11	28Sep11	40d									▼	★														
2.0.3.3.4.3	NuMI Stripline Assembly Complete	28Nov11	19Oct11	25d									▼	★														
2.10.10.5	Accelerator Shutdown Begun	01Mar12	30Apr12	-43d	Will have to move in Jan status																							
2.5.3.3.2.45.44	Far detector module assembly started	16Mar12	25Jan12	37d	CR 437:Was Nov 2011, Mar 15 is current est.																							
2.7.2.1.2.8	Production data concentrators received	30Mar12	26Apr12	-20d	CR 437:Was Jan 2012, Mar was current est.																							
2.0.4.3.13	ANU Shielding Assessment Updates Complete	31May12	03Jan12	105d	CR 437:Was Dec 2012, Jan is current est.																							
2.0.3.2.4.3	NuMI ME Target/Carrier/Baffle Assembly Complete	20Aug12	20Jun12	42d									▼	★														
2.0.2.2.5.4	MI RF Cavities (2) Installation & Testing Complete	28Sep12	02May12	103d									▼	★														



Analysis of all milestones

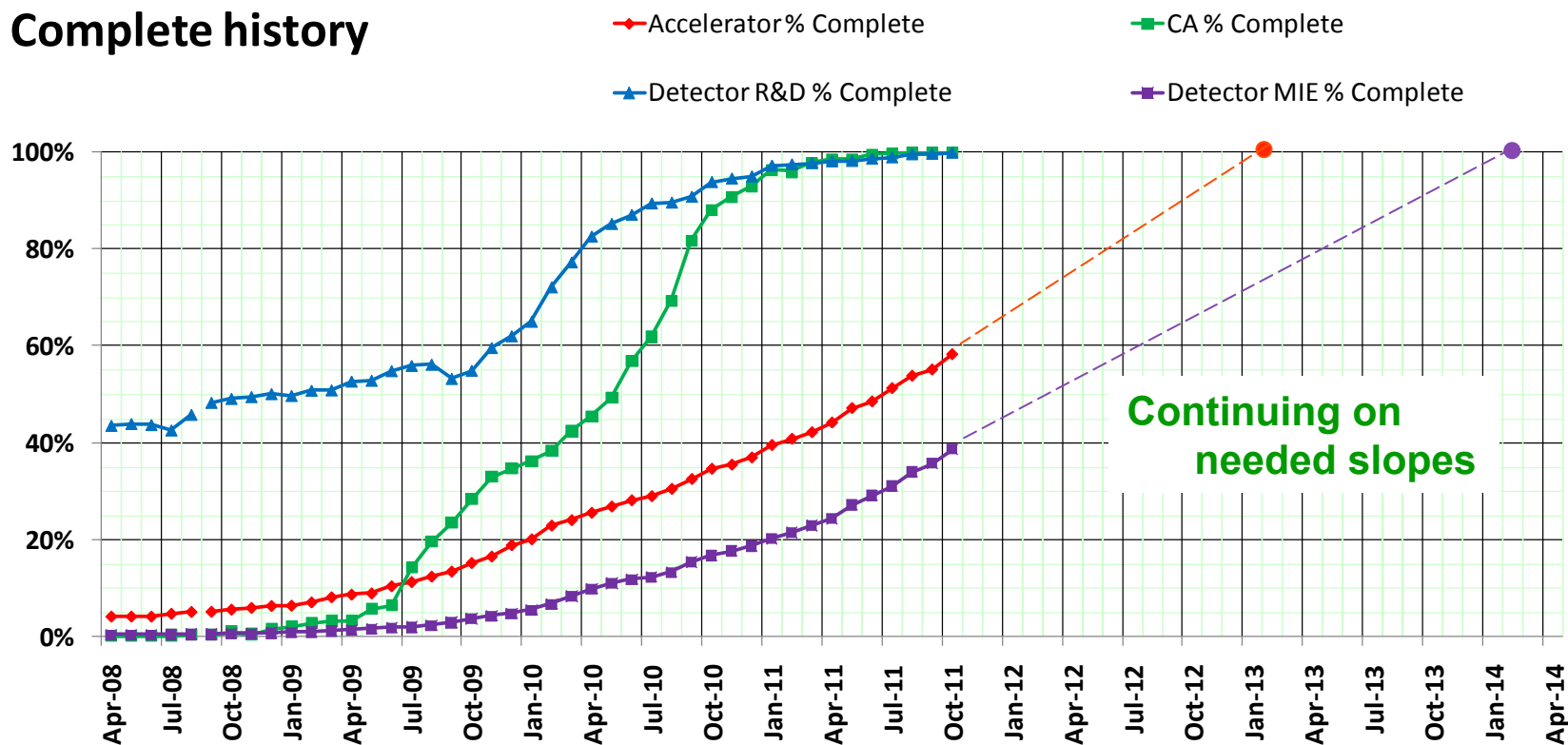
- **337 of 693 now complete** (note Bill has new metric for FermiDash)
 - 2 completed in November, 2 completed in December
- **Behind on 52**





% Complete history **not updated** for the 4 Main parts of the Project

% Complete history

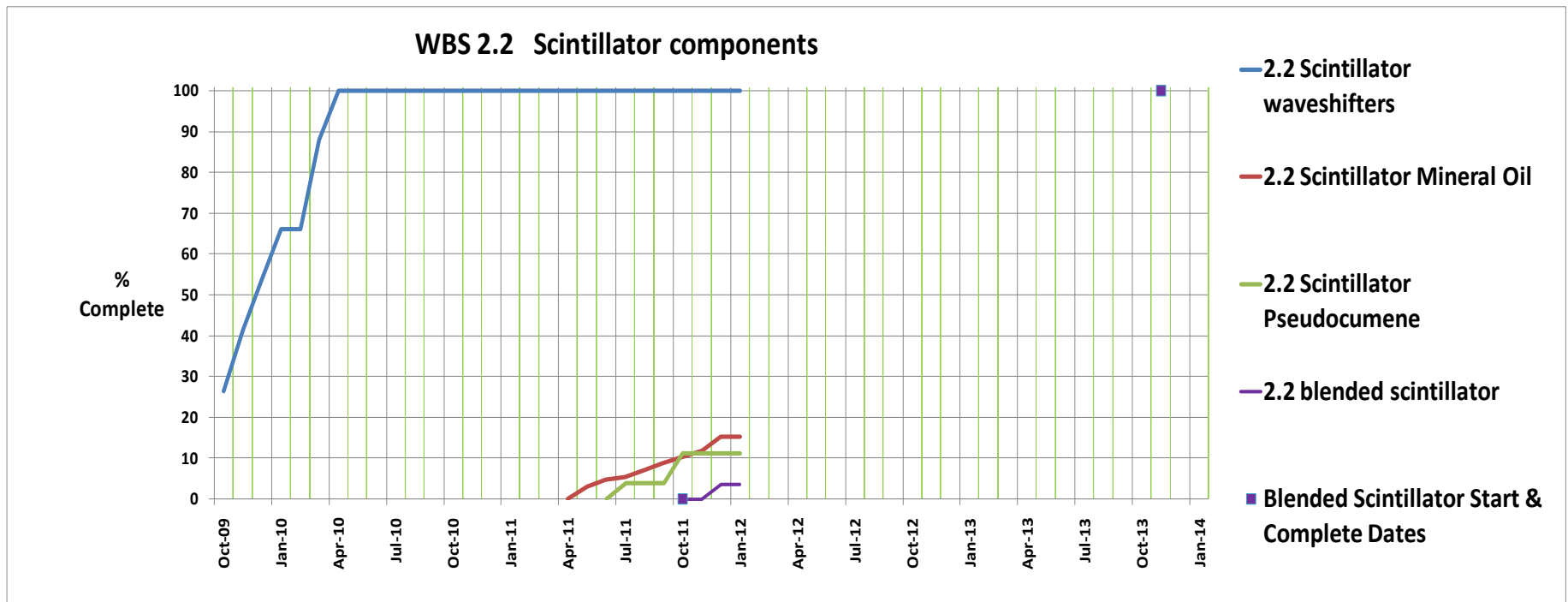


- Building & Detector R&D & ANU R&D done
- ANU to be complete by ~ Feb 2013
- Detector complete by ~ Feb 2014 (DETAILS NEXT)



Scintillator

- We have waveshifters, mineral oil, pseudocumene and Blending Facility
 - We blended the first 6,000 gallons of Fluor (pseudocumene + waveshifters in November)
 - We blended the first 115,564 gallons of scintillator in December
- The dotted line shows the plan.
 - Second Fluor blend completed in January
 - Second Scintillator blend will be in February, then all tanks are full and we wait to ship some to Ash River before proceeding.

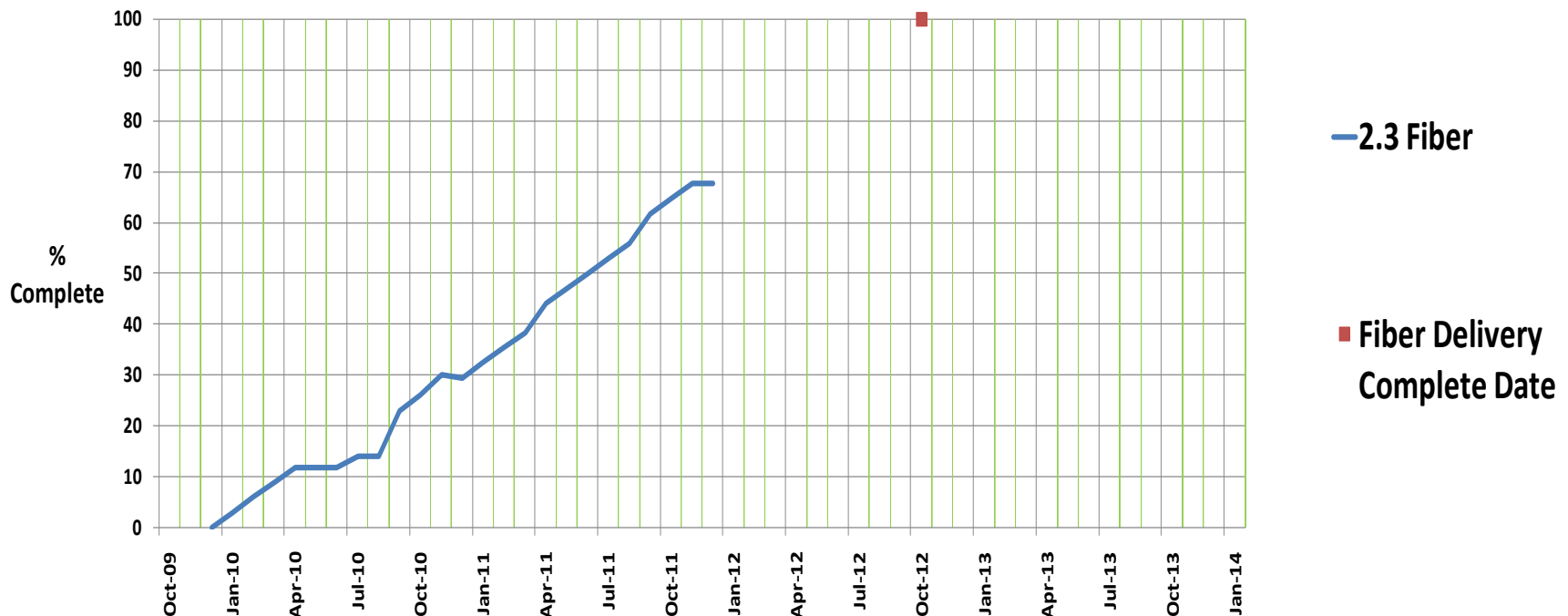




Fiber

- We have 8,250 km of fiber or 67% of the total needed.
 - Clearly on schedule to complete as planned.
- We still need to know the waste rate in the Minneapolis factory to see if we need to buy more fiber than in the current purchase order.
 - Need to exercise our option in the March – May 2012 timeframe (before they stop production)

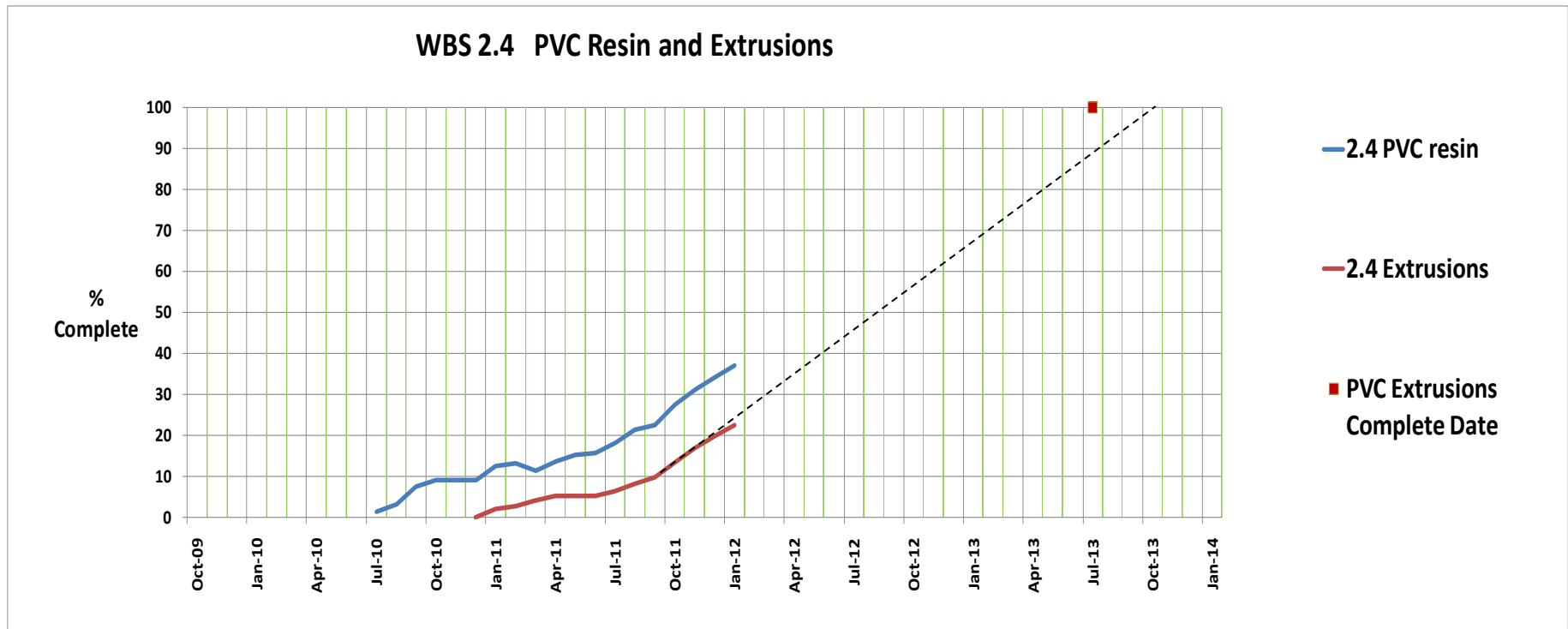
WBS 2.3 Waveshifting Fiber





PVC Extrusions

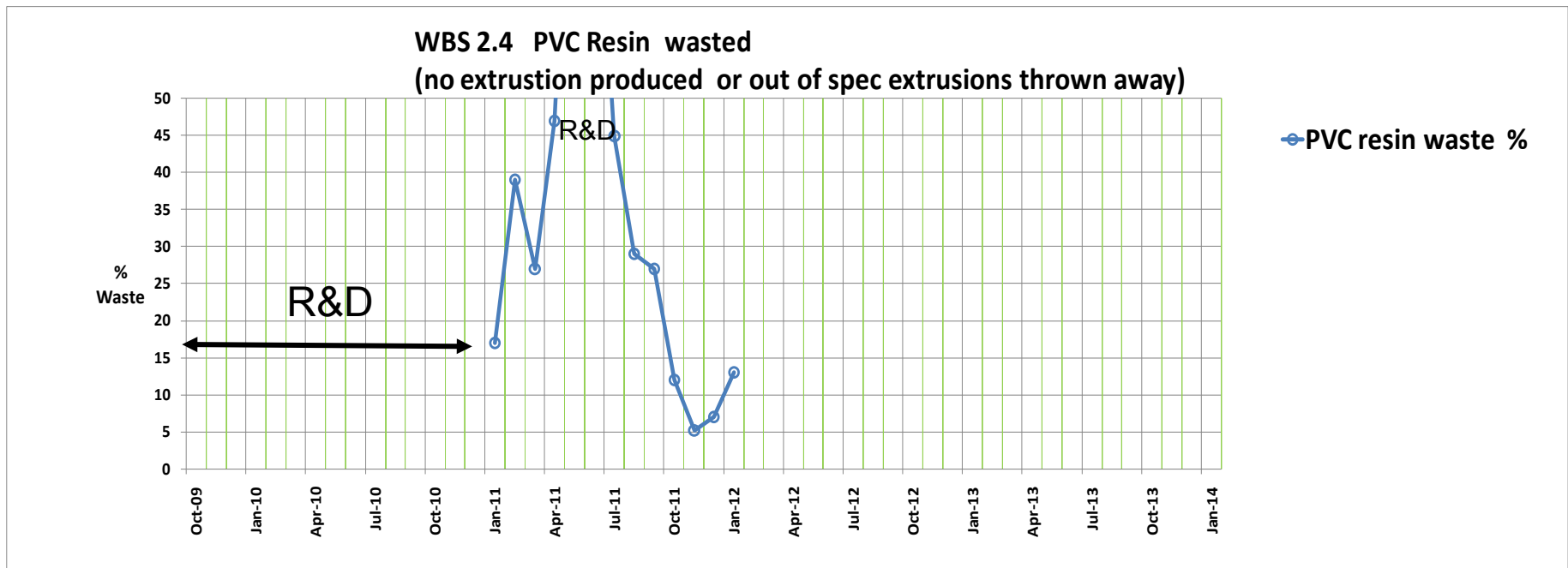
- We have 5,202 good extrusion in hand of the 23,040 required
- So we have 22.4% of the total.
- 6 x 24 operations continue at the vendor
- Looks like continuing at this rate may finish 3 months later than planned
 - Still evaluating production rate, searching for work-arounds if more rate is needed.





PVC scrap rate

- Our schedule assumes a 6% rate
 - Minimum is ~ 2% due to 6" QA samples at end of each 51' extrusion
- Vendor mistake in January on cleaning die
 - Lesson learned, they are writing down the procedure this time.

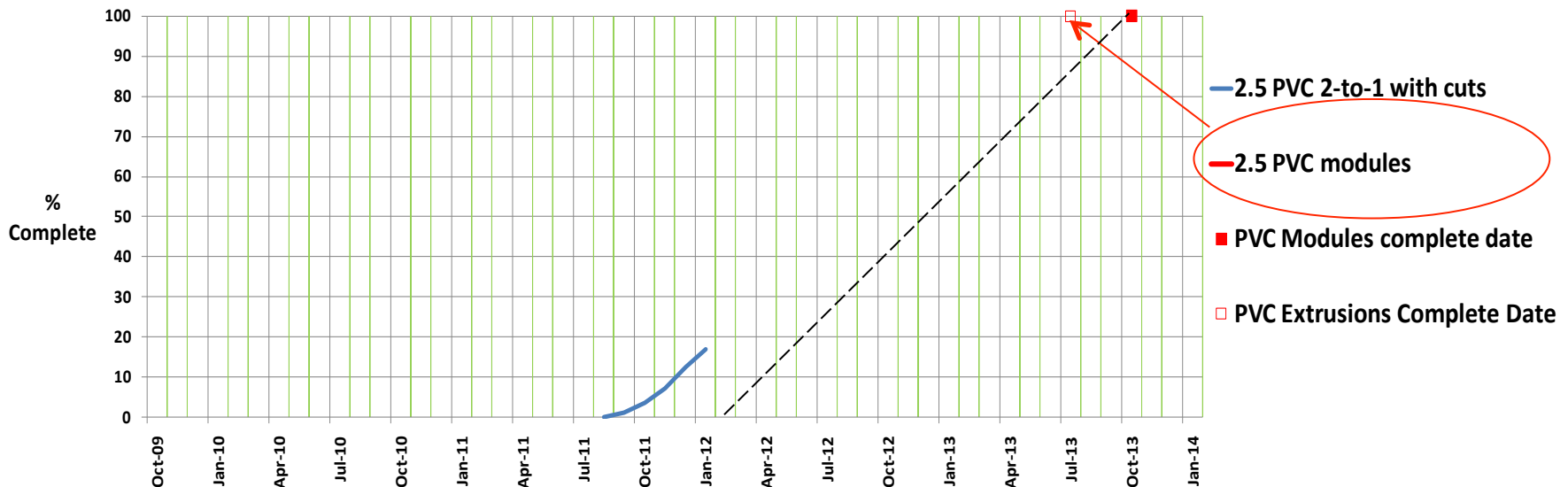




PVC Modules

- We continue making modules from two extrusions
 - Now have 1,958 2-to-1 modules from 3,916 extrusions (17% of the total needed)
 - All are cut to length with good perpendicular cuts at both ends
- Hope to start making complete PVC Modules in mid February
- Note the link between Modules and Extrusions below
 - There are only 3 months of float between the end points.
(so we would be just in time if extrusions slipped 3 months...)

WBS 2.5 PVC Modules





Module Production



**56 stacks of complete 2to1 (4 blocks)
23 stacks of raw extrusions**

**Failure rates overall
Flatness – 1.1%
End Cut – 1.6%**

**Failure rates December
Flatness – 0.5% (396 done)
End Cut – 0% (593 done)**

Peak 2to1 production rate 38/day (average needed 24/day)



Module Parts Schedule

Part	PO Out	1st Article Parts	Production Parts
Manifold Cover	4/28/2011	1/27/2012	3/30/2012
Snout	4/28/2011	10/16/2011	1/13/2012
Endplate	5/26/2011	2/10/2012	2/14/2012
Raceways	7/26/2011	1/30/12	2/14/2012
Raceway Cover	7/26/2011	1/25/2012	2/14/2012
Retaining Ring	7/22/2011	9/27/2011	11/18/2011
Side Seals	8/3/2011	1/25/2012	2/7/2012
Fiber Trays	8/19/2011	10/25/2011	12/20/2011
Optical Connectors	7/25/2011	12/20/2011	1/18/2012
Extruded Center Seal	5/1/2011	6/1/2011	6/15/2011

Green definite dates from vendor

Red is no definite dates from vendor

Manifold covers short (length) by mm's. Evaluating implications of proceeding with modules using sub-standard parts.



Electronics

- APD problems have continued on Near Detector
 - 10 silicone coated and 6 parylene coated APDs were installed on the prototype near detector in Dec. with new mounting parts. The installation was unsuccessful with air leaks still occurring and not allowing the APDs to be operated cold (-15C). Currently running these APDs at room temperature.
 - Problems with leaky seals in heat sinks have lead us to implement dry gas system to keep APDs dry.
- APDs on hold while we investigate solutions to Near Detector losses
 - Engineering started on dry gas system to keep the APD volume dry. Tests with small system (20 APDs) on prototype near detector to be performed in the next couple of weeks.
 - Small lot of 250 new APDs from Hamamatsu installed on the prototype near detector in Ferbruary and Tested during March & April (2 months of cold running).
 - Delivery of 12,000 production APDs to start 2 months after decision on coating (early July).
- Front End Boards (FEBs)
 - All the boards have been delivered.
 - 1st 100 stuffed boards are in hand, expect performance evaluation this week.



DAQ Hardware

- TDU and DCM evaluation tied together (matched set)
- TDU:
 - 5 production prototypes pass initial tests with production prototype DCMs
 - 5 production TDU to arrive by 17 February
 - Testing of 5 production TDU complete by 20 February
 - Install 2 TDU in Ash River test stand by 2 March
 - Balance of TDUs tested by 16 March
- DCM:
 - 2 production prototypes pass initial tests with TDUs.
 - Expect to sign off on DCM production this week.



Near Detector Cavern/Construction

- PPD review of NOvA construction impacts held on Nov 7
 - NOvA provided estimates of vibrations expected from Roadheader
- Near Detector RFP is out, bids due on Feb 29
 - Schedule below has slipped ~ 2 weeks

Preliminary Construction Schedule

Dec. 1, 2011 —————> Issue for Proposals
Feb. 16, 2012 —————> Receive Proposals
Mar. 14, 2012 —————> Issue Purchase Order
Apr. 18, 2012 —————> NTP to Start **Site Prep Package**
May 1, 2012* —————> START Shutdown
Aug. 29, 2012 —————> Start Excavation **Tunnels & Hall Package**
Jan. 1, 2013 —————> Start **Outfitting Package**
Feb. 1, 2013* —————> END Shutdown
Jun. 1, 2013 —————> Project Complete

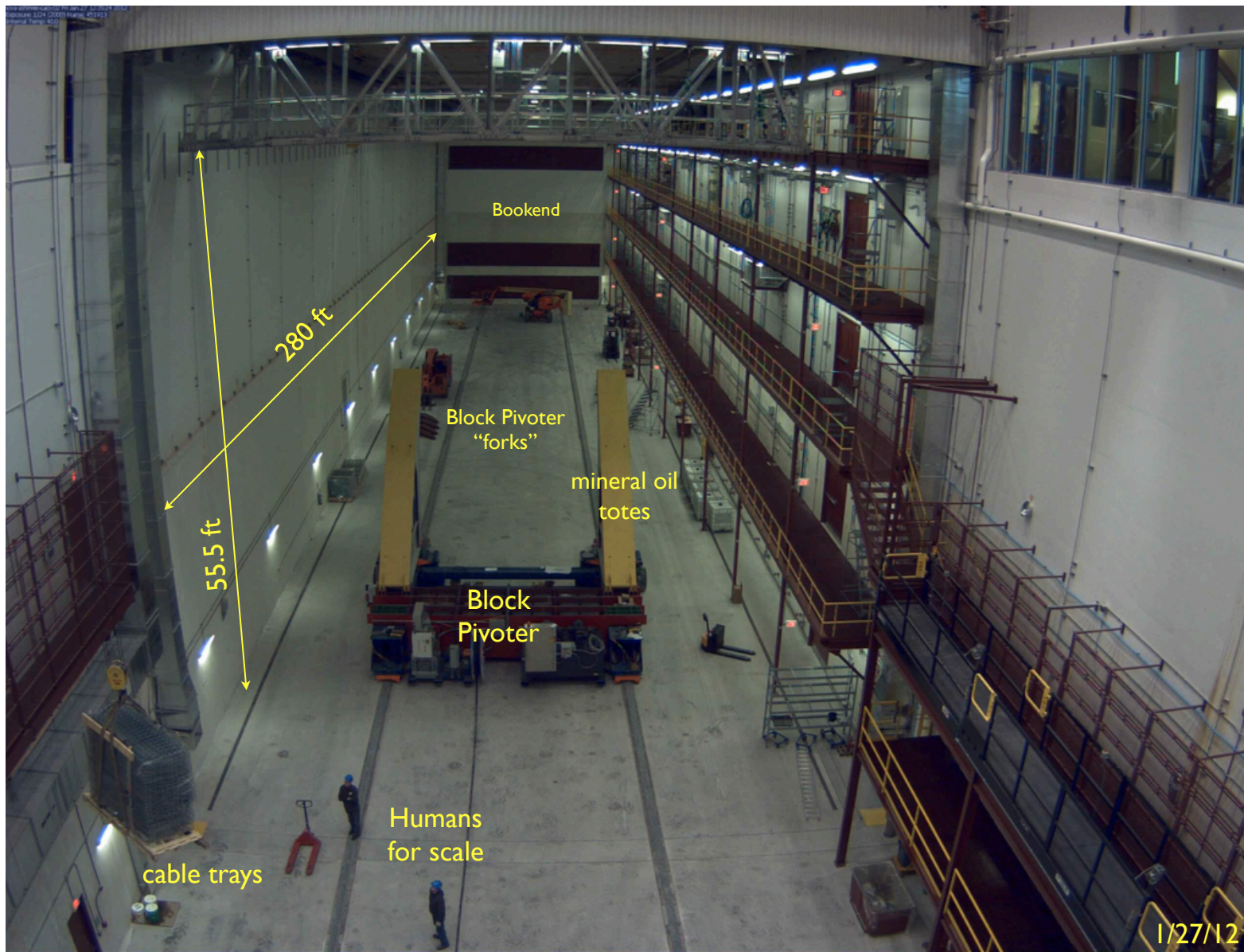


Block Assembly & Outfitting

- Detector Assembly
 - The Pivoter was the critical path, supposed to be ready in January.
 - Module production is now the critical path.
 - Pivoter table assembly starts this week, 10 days to assemble table.
 - South bookend completed last week
- Detector Outfitting
 - Fermilab (DAQ/Controls) network installed
 - Ash River control room operational
 - Started outfitting detector racks
 - pORC review underway for rack protection system; completed this week(?)
 - Scintillator distribution system complete in detector hall. Last components being installed in scintillator transfer room (pumps, controls, scintillator conditioning).
 - Photos in following slides



Progress at Ash River



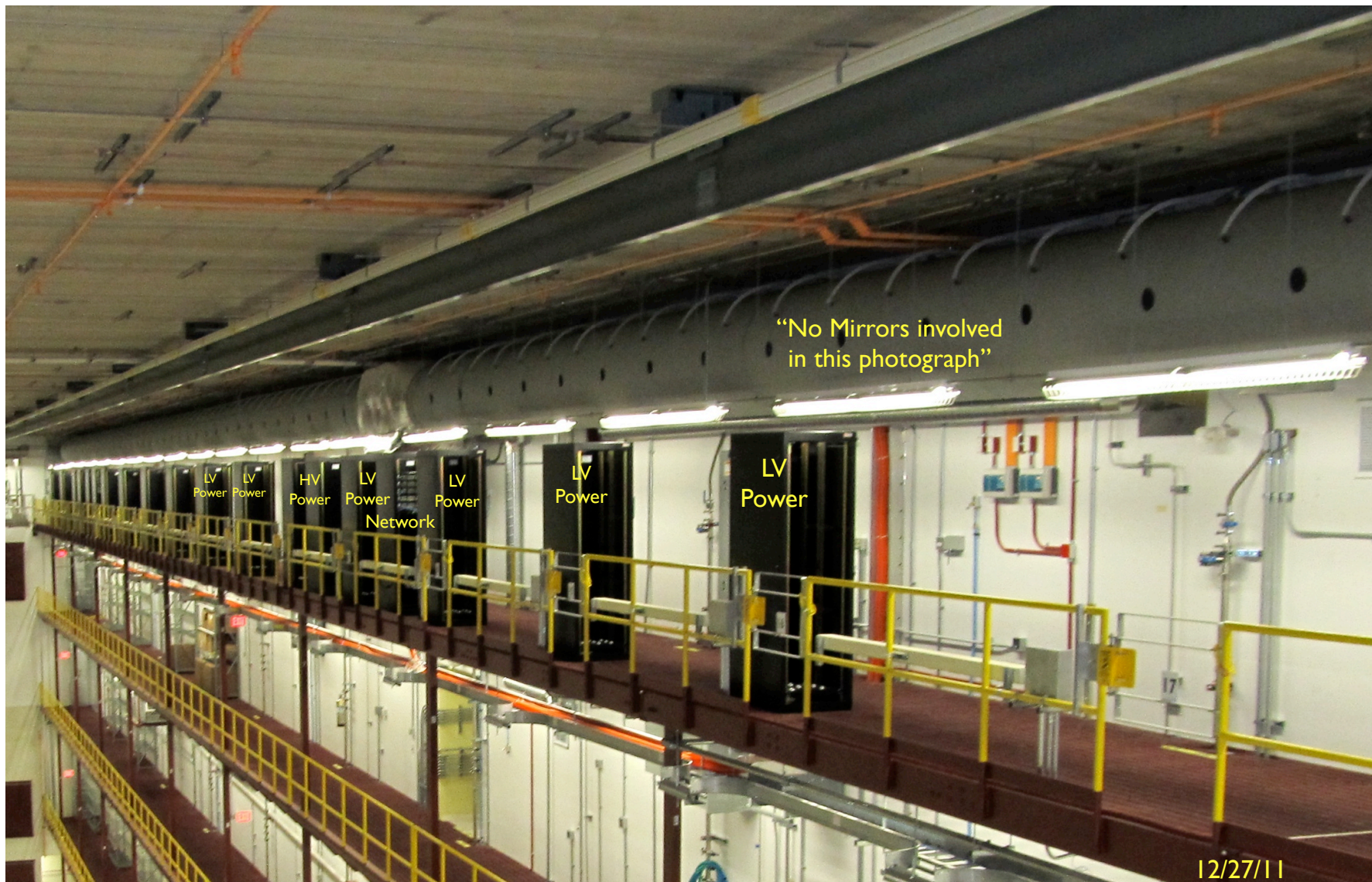


Progress at Ash River



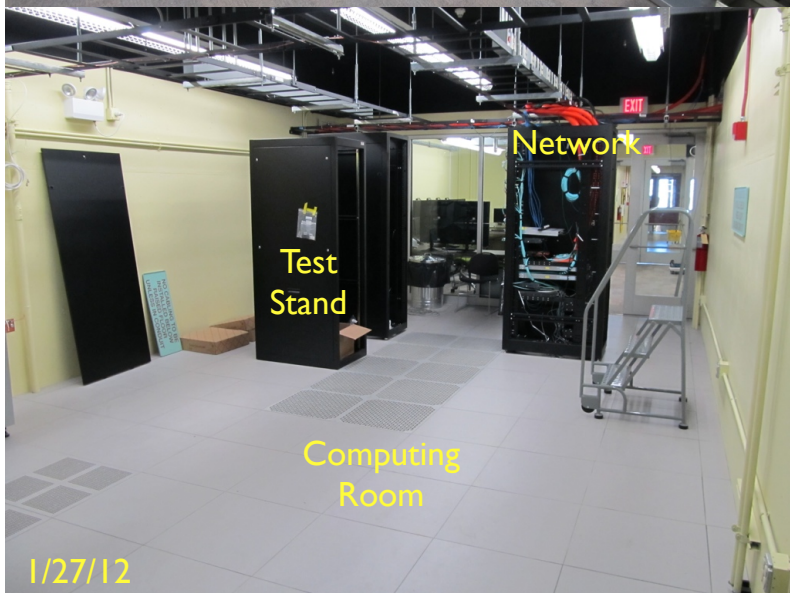


Progress at Ash River





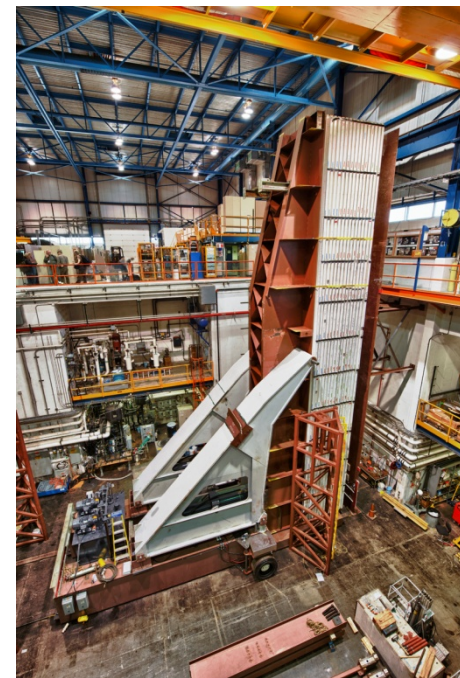
Progress at Ash River





Other Assembly & Outfitting Progress

- FHEP installed and rotated at CDF building
 - Movie at
 - <http://www.symmetrymagazine.org/breaking/2011/11/17/novapivotertest/>
 - <http://www.fnal.gov/>
 - Will fill with water
 - Safety review for filling is underway





IPR Recommendations (8/2011)

#	Committee Recommendation	NOvA Response	Comment
1	The NOvA Project should insure that the development of the installation schedule includes contingency planning if ceramic beam tubes are delayed.	Closed. This is included in our installation planning by scheduling these tasks as late as possible. From the 22 Nov 2011 PMG, we are confident that we now have enough tubes in hand for all of the various fallback scenarios we have envisioned.	
2	Conduct an APD review by October 31, 2011, with international experts, to ensure fallback plans and planned testing are thorough and complete. Speed up delivery of an initial lot of coated devices in order to verify the solution.	Closed. The APD review was conducted on October 14, 2011 and a draft report was received by the NOvA Project on October 24, 2011.	Modified plans for heat sinks mean some recommendations need to be re-considered.
3	Update the QA plan and organization across the Project by December 2011 to prepare for full-scale production, assembly, and outfitting.	Closed. The Quality Assurance Program for the NOvA Project, NOvA DocDB # 1353 , was reviewed, updated, and entered into DocDB on 23 Nov 2011.	Instituted QA audit program for the project. Eight (8) site visits to-date. Summary of audit recommendations in NOvA DocDB #6427



Summary

- EVMS still green
- Some parts of the project off and running
 - WLS Fiber
 - PVC
 - Scintillator
- Others in the starting gate
 - Module Factory
 - Electronics
- Others still waiting to get started
 - Block Assembly
 - Detector Outfitting
 - Near Detector Cavern
 - Near Detector Construction
- Items to Watch
 - APDs
 - APD Cooling
 - Module Parts